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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,144

07/20/2006

Susana Maria Traquete Serrazina

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EXAMINER

BUI, PHUONG T

ART UNIT

PAPER NUMBER

1638

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/562,144	<b>Applicant(s)</b> TRAQUETE SERRAZINA ET AL.	
	<b>Examiner</b> Phuong T. Bui	<b>Art Unit</b> 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 5-13 and 24-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 14-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The Office acknowledges the receipt of Applicant's restriction election filed April 10, 2009. Applicant elects Invention I, claims 1-4 and 14-23 and SEQ ID NO:1 encoding SEQ ID NO:2 without traverse. Claims 1-27 are pending. Claims 5-13 and 24-27 are withdrawn from examination as being drawn to nonelected inventions. Claims 1-4 and 14-23 are examined in the instant application. This restriction is made FINAL.

The Office has received a certified copy of Applicant's foreign priority application filed June 26, 2003. However, no certified English translation has been provided. Applicant shall have priority benefit of PCT/PT04/00015 filed June 25, 2004.

### ***Claim Objections***

2. Claims 1, 14 and 15 are objected to because of the following informalities: "comprising" should not be capitalized. Additionally, nonelected inventions in claim 1 should be deleted. It should be noted that upon cancellation of nonelected subject matter, claim 3 would be a substantial duplicate of claim 1. In claims 14 and 15, "sequences" should be amended to "sequence". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4 and 14-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

In claim 1, it is whether “(AOCCs)” is intended to be a claim limitation, since it does not appear to be the acronym for Allen Oxide Cyclase.

In claims 2-4, “the polynucleotide” lacks antecedence.

In claim 4, “an amino acid sequence” reads on a 2-amino-acid sequence, which does not appear to be Applicant's intention. It is suggested “an amino acid sequence” be amended to “the amino acid sequence”.

In claim 15, “other genes” lacks antecedence.

In claim 16, “molecules” lacks antecedence.

In claims 16-21 and 23, “chimeric” implies a recombinant product while “gene” is a naturally occurring product which has its own promoter, introns, exons, coding regions, etc. This does not appear to be Applicant's intention. It is suggested that “chimeric gene” be amended to “recombinant DNA construct”.

In claims 17-21 and 23, “chimerical genes” lacks antecedence.

Clarification and/or correction are required.

### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claim 22 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Due to gene segregation during sexual hybridization, the claimed progeny is not necessarily transgenic and thus the claim reads on a product of nature.

### ***Claim Rejections - 35 USC § 112, first paragraph***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1, 3 and 14-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant does not disclose a representative number of species within the generic recitation of allene oxide cyclase. Applicant discloses a single sequence of SEQ ID NO:1 from *Castanea sativa*. However, the genus of allene oxide cyclase encompasses allene oxide cyclases from other undisclosed species. The claims also encompass mutants and allelic variants of SEQ ID NO:1 and thus imply that structural variants exist in nature, yet no structural variant has been disclosed. The implication is that there is a gene and a protein other than that disclosed which exists in nature, but the structure thereof is not known. Thus, there are insufficient relevant identifying characteristics to allow one skilled in the art to predictably determine such mutants, allelic variants and allene oxide cyclases from other plants and organisms, absent further guidance. One skilled in the art cannot reliably determine the structures of other allene oxide cyclases based upon the disclosure of SEQ ID NO:1. Accordingly, there is lack of adequate description to inform a skilled artisan that applicant was in possession of the claimed invention at the time of filing. See Written Description guidelines

published in Federal Register/ Vol.66, No. 4/ Friday, January 5, 2001/ Notices; p. 1099-1111.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-4 and 14-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Ziegler et al. (WO200157224 (N, due to its voluminous size, only the first page is provided) published 9 Aug 2001, see also sequence alignments of Ziegler et al., Database N\_Geneseq\_200812, Accession No. AAH21486, WO200157224, 9 Aug 2001, search result 2 (U) and Ziegler et al., Database A\_Geneseq\_200812, Accession No. ADW76457, WO200157224, 9 Aug 2001, search result 1 (V)), Ziegler teaches a DNA sequence which has 100% sequence identity to SEQ ID NO:1 and encodes SEQ ID NO:2 (see sequence alignments). There is no evidence that the sequence of Ziegler cannot be used with other genes expressed in *Castanea sativa* Mill. Ziegler also teaches a nucleic acid construct (chimeric gene), expression cassette, replicable expression vector, plant genome, genetically modified plant and fruit or seeds obtained

from cross breeding of the genetically modified plant. Accordingly, Ziegler anticipates the claimed invention.

11. Claims 1-4 and 14-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Ziegler et al. (US 2004/0137590 (A)). Ziegler teaches a DNA sequence which has 100% sequence identity to SEQ ID NO:1 and encodes SEQ ID NO:2 (see 102(b) rejection above). There is no evidence that the sequence of Ziegler cannot be used with other genes expressed in *Castanea sativa* Mill. Ziegler also teaches a nucleic acid construct (chimeric gene), expression cassette, replicable expression vector, plant genome, genetically modified plant and fruit or seeds obtained from cross breeding of the genetically modified plant (see claims). Accordingly, Ziegler anticipates the claimed invention.

#### ***Remarks***

12. No claim is allowed.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Bui whose telephone number is 571-272-0793.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/17/09

/Phuong T. Bui/  
Primary Examiner, Art Unit 1638